

ECOLOGY AND ENVIRONMENT, INC.  
FIELD INVESTIGATION TEAM  
SITE SAFETY PLAN



## A. GENERAL INFORMATION

SITE: Kankakee Valley AirportTDD NO.: F05-8702-169LOCATION: Kankakee, IllinoisWSTS/ACCOUNT NO: IL0475SIPLAN PREPARED BY: P. SmithDATE: 2-25-87APPROVED BY: Michael OshwayDATE: 2/27/87

OBJECTIVE(S): (including description of work to be performed): On-site  
interview with site representatives. No  
samples will be taken.

PROPOSED DATE OF INVESTIGATION: March 4, 1987

BACKGROUND REVIEW:

Complete: ☒ Preliminary: ☐

DOCUMENTATION/SUMMARY:

Overall Hazard: Serious: ☐ Moderate: ☒  
Low: ☐ Unknown: ☐

## B. SITE/WASTE CHARACTERISTICS

WASTE TYPE(S): Liquid ☒ Solid ☐ Sludge ☐ Gas ☐CHARACTERISTIC(S): Corrosive ☐ Ignitable ☐ Radioactive ☐ Volatile ☐

Toxic ☒ Reactive ☐ Unknown ☒ Other (Name) Carcinogen

FACILITY DESCRIPTION: The site is comprised of several areas where  
pesticide wastes were disposed of directly or indirectly into the  
ground — a former house's foundation and two underground tanks.

Principal Disposal Method (type and location): Pesticides were dumped into a  
house foundation and into 2 underground tanks. Also, third tank  
used to catch washwater from engine parts cleaning operations.

Unusual Features (dike integrity, power lines, terrain, etc.):                     

NONE

Status: (active, inactive, unknown) Businesses are presently operating  
at site. At least one of the tanks may still be in use for pesticide  
waste storage.

History: (Worker or non-worker injury; complaints from public; previous agency action): No history of injuries. Nearby resident complained that wastes from one underground tank regularly overflowed. Resident claimed overflow drained through a field tile and out into nearby ditch. Resident concerned that his well may be contaminated (1982). IEPA sampled his well and found no contaminants (12/84). IEPA sampled soils and soil waters (12/84). Company is a crop dusting operation.

### C. HAZARD EVALUATION

(Use Hazard Evaluation of Chemicals sheets for specific or representative chemicals present.):

PESTICIDES: Treflan, Atrazine, Alachlor, Dacthal, Naphthalene

Watch for openings in asphalt/ground.

avoid all routes of exposure.

Xylene, Benzene

There is no record of any cyanide or radioactive materials handled or disposed on-site. The inspection will be carried out out-of-doors, where O<sub>2</sub> deficient conditions are not expected.

Company currently not operating due to off-season for crop dusting.

### D. SITE SAFETY WORK PLAN

PERIMETER ESTABLISHMENT: Map/Sketch Attached YES Site Secured? UNKNOWN

Perimeter Identified? NO Zone(s) of Contamination Identified? NO

Assume entire site contaminated

### PERSONAL PROTECTION

Level of Protection: A      B      C      D X

Modifications: Level D with possible upgrade to level C should surveillance equipment warrant. HNU readings 1-5 ppm above background - upgrade to level C. Readings > 5 ppm, abandon site, contact RSC.

Surveillance Equipment and Materials: ACTION LEVELS See below re: dusty cond.

Explosimeter: > 30% LEL = abandon site and contact RSC

H<sub>2</sub>CN Tubes / rad mini / O<sub>2</sub> meter: Since there is no record of cyanides, unstable isotopes, and O<sub>2</sub> deficient areas, detection instruments are not warranted.

hnu: 0-1 ppm above background = Level D

1-5 ppm above background = Level C

> 5 ppm above background = abandon site; contact RSC

If dusty/windy conditions exist avoid waste storage areas or upgrade to level 'C'

**DECONTAMINATION PROCEDURES:** All suspect contaminated material will be washed and rinsed with Alconox. All wash and rinse water will be left on-site. Prior permission required.

**Special Equipment, Facilities, or Procedures:** NONE

**SITE ENTRY PROCEDURES:** Enter site upwind if possible. Get background readings with site entry instruments before entering. Observe buddy system at all times. Entry into buildings is prohibited. Observe site safety rules at a minimum. If site name check site.

Team Member

Phil Smith

Cindy Pugh

Benny Castillo

Responsibility

Team Leader

SSO.

Team member

**WORK LIMITATIONS (Time of day, etc.):** Work will be conducted outside, during daylight hours only. Monitor for cold/heat stress.

**INVESTIGATION-DERIVED MATERIAL DISPOSAL:** All investigation derived materials will be double-bagged, labeled "potentially hazardous" and left on-site. Prior permission will be obtained.

## E. EMERGENCY INFORMATION\*

### LOCAL RESOURCES

Ambulance 933-9571 Henson Ambulance Co.  
Hospital Emergency Room 937-2100 St. Mary's Hospital 500 W. Court St., Kankakee  
Poison Control Center (Chicago) 1-800-942-5969 (Rush-P.-St. Lukes Hospital)  
Police 933-3321 (Kankakee Police Dept.)  
Fire Department 933-3311 (Kankakee Fire Dept.)  
Airport N/A  
Explosives Unit N/A  
EPA Contact Don Josif (312) 886-0393

### SITE RESOURCES

Water Supply To be determined prior to site entry.  
Telephone To be determined prior to site entry.  
Radio N/A  
Other N/A

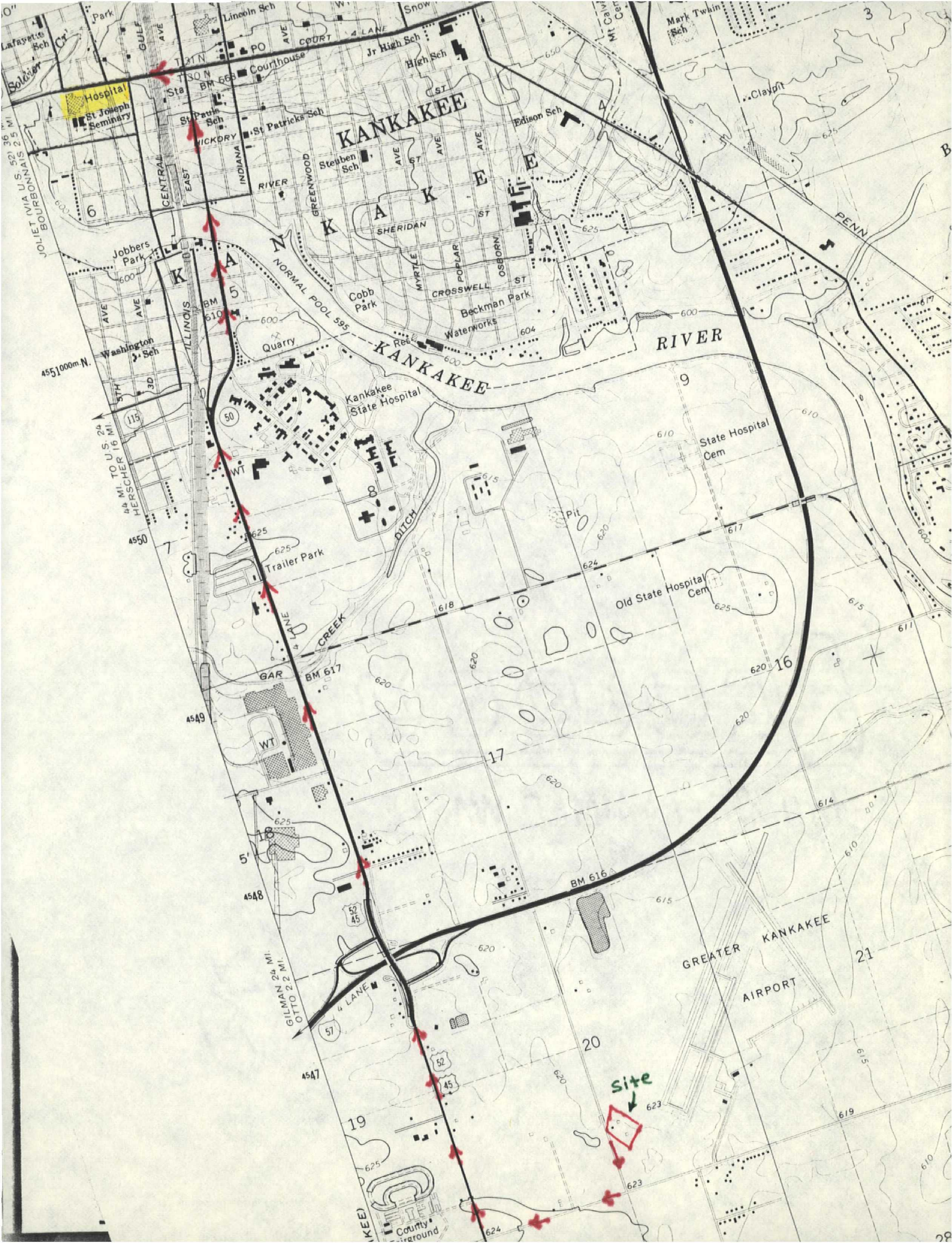
### EMERGENCY CONTACTS

1. Mr. Raymond Harbison (University of Arkansas) ..... (501) 661-5766 or 661-5767  
MED-TOX ..... (501) 370-8263 (24 hours)
2. Regional Safety Coordinator - Paul Moss ..... (312) 541-6635 (Home)
3. Regional Project Manager- Rene Van Someren ..... (312) 763-7335
4. FIT Office ..... (312) 663-9415
5. E & E 24 Hour Call Line ..... (716) 631-9530 (24 Hours; Call Forwarding)
6. Regional Health Maintenance Program Contact ..... PMI - (312) 832-8820  
8:00 a.m. - 5:00 p.m.
7. Paul Jonmaire..... (716) 631-9530 (Response Center)  
Corporate Safety Director ..... (716) 632-4491 (office)
8. Ecology and Environment, Inc. NPMO ..... (703) 522-6065

## F. EMERGENCY ROUTES

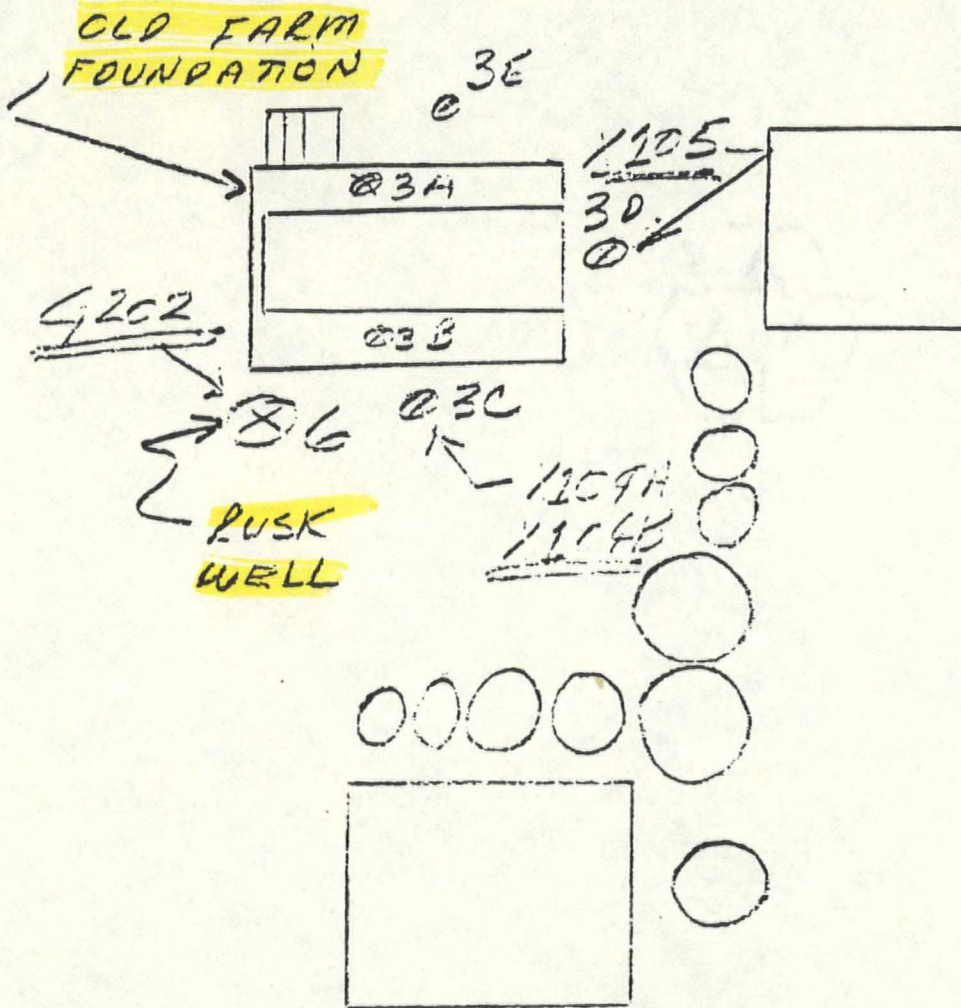
(Give road or other directions; attach map)

Hospital: Take county fair road west to U.S. 45 / 52 North  
into Kankakee, to Court Street West (left), to  
500 W. Court St. (See map).

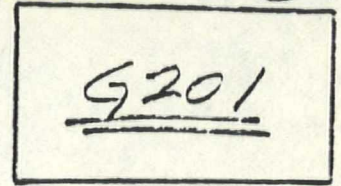


GREATER KANKAKEE AIRPORT 12/12/84  
RUSK SPRAYING AND RUSSELL AVIATION

TILE DISCHARGE → E



RUSSELL WELL → 84



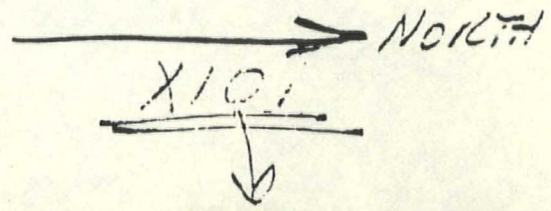
ENTRANCE

1102-  
1B, 8

TILE LINE

1A, 8

RECEIVED  
JAN 07 1985  
FBI/DOJ



44

## Medtox Hotline

### 1. Twenty-four hour answering service - (501) 370-8263

#### What to Report:

- State: "This is an emergency."
- Your name, region, and site
- Telephone number to reach you
- Name of person injured or exposed
- Nature of emergency
- Action taken

2. One of three toxicologists (Drs. Raymond Harbison, Richard Freeman, or Robert James) will contact you. Repeat the information given to the answering service.

3. If a toxicologist does not return your call within 15 minutes, call the following persons in order until contact is made:

E & E Corporate Headquarters (EST 0830-1700) - (716) 632-4491

a. Twenty-four hour line - (716) 631-9530

b. Corporate Safety Director - Paul Jonmaire (Office) (716) 632-4491

c. Assistant Corporate Safety Officer - Steve Sherman (home (716) 688-0084)

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## Regional Office

Office Phone Number: (312) 663-9415

	<u>Name</u>	<u>Home</u>
Team Leader	Rene' Van Someren	(312) 763-7335
Regional Safety Coordinator	Paul Moss	(312) 541-6635

# THE SIGMA-ALDRICH LIBRARY OF CHEMICAL SAFETY DATA

## Explanation of Codes

### PROCEDURES FOR SPILLS OR LEAKS

- 1 Absorb on sand or vermiculite and place in closed container for disposal.
- 2 Cover with dry lime, sand, or soda ash. Place in covered containers using nonsparking tools and transport outdoors.
- 3 Shut off all sources of ignition.
- 4 Evacuate area.
- 5 Cover with an activated carbon adsorbent, take up and place in closed container. Transport outdoors.
- 6 Ventilate area and wash spill site after material pickup is complete.
- 7 Sweep up, place in a bag and hold for waste disposal.
- 8 Avoid raising dust.
- 9 Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves.
- 10 Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves.
- 11 Cover with dry lime or soda ash, pick up, keep in a closed container and hold for waste disposal.
- 12 Carefully sweep up and remove.
- 13 Flush spill area with copious amounts of water.
- 14 Mix with solid sodium bicarbonate.
- 15 Place in appropriate container.
- 16 Wear protective equipment.
- 17 Wash spill site with soap solution.
- 18 Please contact the Technical Services Department. Be sure to mention the name and catalog number of the material.

### FIRE-EXTINGUISHING MEDIA

- 1 Carbon dioxide.
- 2 Dry chemical powder.
- 3 Water spray.
- 4 Alcohol or polymer foam.
- 5 Class D fire-extinguishing material only.
- 6 Water may be effective for cooling, but may not effect extinguishment.
- 7 Carbon dioxide, dry chemical powder, alcohol or polymer foam.
- 8 Foam and water spray are effective but may cause frothing.
- 9 Do not use dry chemical powder extinguisher on this material.
- 10 Do not use carbon dioxide extinguisher on this material.
- 11 Noncombustible.
- 12 Do not use water.
- 13 Use extinguishing media appropriate to surrounding fire conditions.





# WASTE-DISPOSAL METHODS

The disposal methods outlined below are intended only as guides. We do not assume responsibility for their use. Careful consideration must be given to the chemical and physical properties of the substance. In addition, local laws and regulations may preclude the use of these methods which are primarily designed for small quantities. Observe all federal, state, and local laws.

The disposal of some chemicals may require deactivation or modification of the material by chemical means. Chemical waste-disposal reactions must be handled with the same care and consideration used with synthetic procedures. Appropriate consideration must be given to reaction conditions, i.e., stoichiometry, order and rate of addition, heat of reaction, evolution of gaseous products, pH, efficiency of stirring, rate of reaction, atmospheric sensitivity, etc.

Chemical waste-disposal reactions should be carried out in a chemical fume hood and in appropriate laboratory glassware. Because these reactions are often vigorous, protective safety equipment such as safety goggles, respirator, gloves, face and/or safety shield and other protective equipment must be used.

Initial reactions in a disposal sequence should be carried out on a small scale (5-10g). The reactant concentrations should not exceed 10% of the reaction volume and the final reaction volume should not exceed 50% of the working capacity of the reaction vessel, regardless of the reaction scale. Larger quantities of the material should be handled in several small-size reactions. To ensure completion of reaction, the waste disposal procedure should be run for at least an additional 4 to 8 hours after all materials have been mixed.

All reactions should be run by technically qualified persons familiar with the potential hazards of the chemical reactions.

- A Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- B The material should be ignited in the presence of sodium carbonate and slaked lime (calcium hydroxide). The substance should be mixed with vermiculite and then with the dry caustics, wrapped in paper and burned in a chemical incinerator equipped with an afterburner and scrubber.
- C This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.
- D Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable.
- E To a solution of the product in water, add an excess of dilute sulfuric acid. Let stand overnight. Remove any insolubles and bury in a landfill site approved for hazardous-waste disposal.
- F Cautiously dissolve the material in water. Neutralize immediately with sodium carbonate or, if the material does not dissolve completely, add a little hydrochloric acid followed by sodium carbonate. Add calcium chloride in excess of the amount needed to precipitate the fluoride and/or carbonate.

Separate the insolubles and bury in a landfill site approved for hazardous-waste disposal.

- G Under an inert atmosphere, cautiously add the material to dry butanol in an appropriate solvent. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for venting of large volumes of highly flammable hydrogen and/or hydrocarbon gases. Neutralize the solution with aqueous acid. Filter off any solid residues for disposal as hazardous waste. Burn the liquid portion in a chemical incinerator equipped with an afterburner and scrubber.
- H Neutralize the solution and add filtering agent (10g per 100ml). Evaporate the liquid and bag the residual solid for burial in a landfill site approved for hazardous-waste disposal.
- I Dissolve the solid in (or dilute the solution with) a large volume of water. Carefully add a dilute solution of acetic acid or acetone to the mixture in a well ventilated area. Provisions should be made to vent safely the hydrogen gas given off during the decomposition. Check acidity of the solution and adjust to pH 1 if necessary. Let stand overnight. Neutralize the solution (pH 7). Evaporate the solution and bury the residue in a landfill site approved for hazardous-waste disposal.
- J Cautiously acidify a 3% solution or a suspension of the material to pH 2 with sulfuric acid. Gradually add a 50% excess of aqueous sodium bisulfite with stirring at room temperature. An increase in temperature indicates that a reaction is taking place. If no reaction is observed on the addition of 10% of the sodium bisulfite solution, initiate it by cautiously adding more acid. If manganese, chromium, or molybdenum is present, adjust the pH of the solution to 7 and treat with sulfide to precipitate for burial as hazardous waste. Destroy excess sulfide, neutralize and flush solution down the drain.
- K Please contact the Technical Services Department. Be sure to mention name, catalog number and quantity of the material.
- L The material should be dissolved in 1) water; 2) acid solution or 3) oxidized to a water-soluble state. Precipitate the material as the sulfide, adjusting the pH of the solution to 7 to complete precipitation. Filter the insolubles and dispose of them in a hazardous-waste site. Destroy any excess sulfide with sodium hypochlorite. Neutralize the solution before flushing down the drain.
- M A slurry of the arenediazonium salt with water can be disposed of by adding it gradually to a stirred solution of 5-10% excess 2-naphthol in 3% aqueous sodium hydroxide at 0-20°C. After 12 hours, the resulting azo dye is filtered and either incinerated or buried in a landfill site approved for hazardous-waste disposal. Neutralize the remaining solution before disposal.
- N For small quantities: cautiously add to a large stirred excess of water. Adjust the pH to neutral, separate any insoluble solids or liquids and package them for hazardous-waste disposal. Flush the aqueous solu-

tion down the drain with plenty of water. The hydrolysis and neutralization reactions may generate heat and fumes which can be controlled by the rate of addition.

- O Bury in a landfill site approved for the disposal of chemical and hazardous waste.
- P Material in the elemental state should be recovered for reuse or recycling.
- Q Cautiously make a 5% solution of the material in water or dilute acid. There may be a vigorous, exothermic reaction and fumes may be generated due to the hydrolysis of the material. Control any reaction by cooling and by the rate of addition of the material. Gradually add dilute ammonium hydroxide to pH 10. Filter off any precipitate for disposal in a chemical landfill. If there is no precipitation, gradually adjust the pH from 10 to 6, stopping when precipitation occurs.
- R Catalysts and expensive metals should be recovered for reuse or recycling.
- S Treat a dilute basic solution (pH 10-11) of the material with a 50% excess of commercial laundry bleach. Control the temperature by the addition rate of bleach and adjust pH if necessary. Let stand overnight. Cautiously adjust solution to pH 7. Vigorous evolution of gas may occur. Filter any solids for burial in a chemical landfill. Precipitate any heavy metals by addition of sulfide and isolate for burial. Additional equivalents of hypochlorite may be needed if the metal can be oxidized to a higher valence state. For metal carbonyls, the reaction should be carried out under nitrogen.
- T Cautiously make a 5% solution of the product in water; vent because of possible vigorous evolution of flammable hydrogen gas. Acidify the solution to pH 1 by adding 1M sulfuric acid dropwise. Acidification will cause vigorous evolution of hydrogen gas. Allow the solution to stand overnight. Evaporate the solution to dryness and bury the residue in a landfill site approved for hazardous-waste disposal.
- U Take the material (or a solution) and make a 5% solution in tetrahydrofuran. Cautiously add the solution dropwise to an ice-cooled, stirred basic solution of commercial bleach. Oxidation may release flammable hydrocarbon gases which must be vented. Let stand overnight. Adjust the pH to 7 and destroy excess hypochlorite with sodium bisulfite before disposal of the solution.
- V Under an inert atmosphere cautiously add dry butanol or a mixture of dry butanol in an appropriate solvent, to a solution of the material in tetrahydrofuran. The chemical reaction may be vigorous and/or exothermic. Provisions must be made for the venting of a large volume of flammable hydrogen gas. When gas evolution ceases, cautiously add a basic hypochlorite solution dropwise to the reaction solution. Let stand overnight. Neutralize the solution and treat with sodium bisulfite to destroy any excess hypochlorite. Filter any solids for burial in a landfill site approved for hazardous-waste disposal.

These recommendations are intended only as guides. Sigma-Aldrich shall not be held liable for any damage resulting

from their use. See Forward of the Sigma-Aldrich Library of Chemical Safety Data for more information.



Ecology and Environment, Inc.  
Hazard Evaluation of Chemicals  
Region V - Chicago

Chemical Name Benzene Date \_\_\_\_\_  
DOT Classification \_\_\_\_\_ Job Number \_\_\_\_\_  
CAS Number 71-43-2

**REFERENCES CONSULTED** (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)  
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich  
RTECS other: \_\_\_\_\_

**CHEMICAL PROPERTIES:** (Synonyms: benzol, benzole, cyclohexatriene)

Chemical Formula C<sub>6</sub>H<sub>6</sub> MW 78 Ionization Potential 9.245ev  
Physical State liquid Boiling Point 176°F Freezing Point 42°F  
Flash Point 12°F Flammable Limits 1.3-7.1% Vapor Pressure 75mm  
Specific Gravity/Density 0.879 Odor/Odor Threshold 4.68 ppm  
Solubility-water: slightly Solubility-other: \_\_\_\_\_  
Incompatabilities & Reactivity: strong oxidizers, chlorine, bromine

**TOXICOLOGICAL PROPERTIES:**

Exposure Limits: TLV-TWA (ACGIH) 10 ppm PEL (OSHA) 10 ppm  
STEL none Ceiling Limits >25<50ppm/10min IDLH 2000 ppm  
Toxicity Data: (Indicate duration of study)  
Human; IHL Tclo 100/CNS Dermal \_\_\_\_\_ Oral Tdlo 130mg/kg: CNS  
Rat/Mouse; IHL Tclo 50/24H Dermal \_\_\_\_\_ Oral LD50 3800mg/kg  
Aquatic: Tlm96: 100-10ppm Other: IHL: Man TC 2100mg/m3/4Y: carc.  
Carcinogen human-sus Mutagen exper. \_\_\_\_\_ Reproductive Toxin exper.  
Route(s) of exposure - (circle all that apply): Inhalation Ingestion  
Dermal Contact Eye(ocular) Dermal Absorption Other \_\_\_\_\_

**HANDLING RECOMMENDATIONS:** (personal protective measures)

Respirators: 10 ppm use SCBA  
Protective Clothing: excel-viton; good-neoprene, saranax; poor-butyl, natural rubber for gloves. Avoid skin/eye contact.  
Special Equipment: none

**DISPOSAL, FIRE and SPILLS:** (Use numbered codes; see attached sheets for explanation.)

Disposal D Fire 6.7 Leaks&Spills 3.4.5.6.9  
Decomposition Products: toxic fumes of carbon dioxide, carbon monoxide

**FIRST AID:**

ING: Do not induce vomiting, give water or milk, medical attent. immed.  
IHL: Remove to fresh air, give artificial resp. if needed, medical attent.  
Eye/Skin: Flush with water, rinse/wash skin with soap & water thoroughly.

**SYMPTOMS:**

acute(immediate) exposure effects: skin irritant, CNS depressant, mostly IHL, initial excitation followed by headache, dizziness, vomiting, delirium, severe exposure may see tremors, blurred vision, shallow resp., convulsions.

chronic(long term) exposure effects: anorexia, drowsiness, anemia, bleeding under skin, reduced blood clotting; liver, kidney, bone marrow damage, leukemia.

reproductive effects: None reported in humans.



INSECTICIDE Ecology and Environment, Inc.  
Hazard Evaluation of Chemicals  
Region V - Chicago

Chemical Name Naphthalene Date Feb / 87  
DOT Classification \_\_\_\_\_ Job Number P05-8702-169  
CAS Number 91-20-3

**REFERENCES CONSULTED** (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)  
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich  
RTECS other: Sittig

**CHEMICAL PROPERTIES:** (Synonyms: Naphthalin, moth ball, white tar )  
Chemical Formula C10H8 MW \_\_\_\_\_ Ionization Potential 8.12ev  
Physical State solid flakes Boiling Point 424° F Freezing Point 177° F  
Flash Point 174° F Flammable Limits 0.9-5.9% Vapor Pressure .05mm  
Specific Gravity/Density .9625@212° F Odor/Odor Threshold .3ppm

Solubility-water: insoluble Solubility-other: \_\_\_\_\_  
Incompatibilities & Reactivity: Strong oxidizers, chromic anhydride

**TOXICOLOGICAL PROPERTIES:**

Exposure Limits: TLV-TWA (ACGIH) 10ppm PEL (OSHA) 10ppm  
STEL 15ppm Ceiling Limits none est. IDLH 500ppm  
Toxicity Data: (Indicate duration of study)  
Human; IHL \_\_\_\_\_ Dermal \_\_\_\_\_ Oral Ldlo 100mg/kg  
Rat/Mouse; IHL \_\_\_\_\_ Dermal \_\_\_\_\_ Oral Ld50 1780mg/kg  
Aquatic: Tlm 96:10-1ppm Other: \_\_\_\_\_  
Carcinogen N/A Mutagen N/A Reproductive Toxin N/A  
Route(s) of exposure - (circle all that apply): Inhalation Ingestion  
Dermal Contact Eye (ocular) Dermal Absorption Other \_\_\_\_\_

**HANDLING RECOMMENDATIONS:** (personal protective measures)

Respirators: <500ppm use APR w/chemical cartridge; >500ppm-SCBA  
Protective Clothing: Excel-viton; Poor-butyl, vinyl, neoprene, nitrile.  
Special Equipment: Prevent repeated/prolonged exposures.

**DISPOSAL, FIRE and SPILLS:** (Use numbered codes; see attached sheets for explanation.)

Disposal A Fire 1,2,8 Leaks&Spills 6,7,8,10  
Decomposition Products: CO, CO2

**FIRST AID:**

ING: Get medical attent. immed., give water & induce vomiting.  
IHL: Move to fresh air, CPR if necessary, medical attent. immed.  
Eye/Skin: Irrigate/rinse with water for at least 15 min. Wash skin thoroughly with soap & water

**SYMPTOMS:**

acute(immediate) exposure effects: Skin sensitizer & blood agent. Eye irritation, headache, confusion, abdominal pain, nausea, vomiting, diarrhea, bladder, irritation. Hemolytic effects (destruction of red blood cells) mostly pronounced in individuals w/hereditary deficiency of glucose-6-dehydrogenase.

chronic(long term) exposure effects: Repeated exposure may cause dermatitis, kidney and/or liver damage. Repeated exposure may lead to cataracts.

reproductive effects: None

Ecology and Environment, Inc.  
Hazard Evaluation of Chemicals  
Region V - Chicago

Chemical Name Xylene (mixed isomers) Date \_\_\_\_\_

DOT Classification \_\_\_\_\_ Job Number \_\_\_\_\_

CAS Number 1330-20-7

REFERENCES CONSULTED (circle; also include MSDS if appropriate.)

NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)  
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich  
RTECS other: Sittig

CHEMICAL PROPERTIES: (Synonyms: dimethyl benzene, aromatic hydrocarbons)

Chemical Formula C<sub>6</sub>H<sub>4</sub>(CH<sub>3</sub>)<sub>2</sub> MW 106 Ionization Potential 8.56/8.44ev  
Physical State liquid Boiling Point 292/282° F Freezing Point -12° F  
Flash Point 81-90° F Flammable Limits 1-7% Vapor Pressure 7-9mm  
Specific Gravity/Density .864 Odor/Odor Threshold .05ppm  
Solubility-water: Insoluble Solubility-other: Miscible-ether, ethanol  
Incompatibilities & Reactivity: strong oxidizers

TOXICOLOGICAL PROPERTIES:

Exposure Limits: TLV-TWA (ACGIH) 100ppm PEL (OSHA) 100ppm  
STEL 150ppm Ceiling Limits none est. IDLH 10,000ppm

Toxicity Data: (Indicate duration of study)

Human; IHL Telo 200ppm Dermal \_\_\_\_\_ Oral \_\_\_\_\_  
Rat/Mouse; IHL \_\_\_\_\_ Dermal \_\_\_\_\_ Oral \_\_\_\_\_  
Aquatic: 96hr: 22ppm Other: \_\_\_\_\_

Carcinogen neg-anim Mutagen exper Reproductive Toxin exp.teratogen

Route(s) of exposure - (circle all that apply): Inhalation Ingestion

Dermal Contact Eye(ocular) Dermal Absorption Other \_\_\_\_\_

HANDLING RECOMMENDATIONS: (personal protective measures)

Respirators: 1000 ppm APR, 5000 ppm - SCBA

Protective Clothing: Good-nitrile, viton; poor-butyl rubber, neoprene.

Special Equipment: Safety goggles, protective clothing for prolonged exposures.

DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)

Disposal D Fire 6.7 Leaks&Spills 3.4.5.6.9

Decomposition Products: CO, CO<sub>2</sub>

FIRST AID:

ING: Do not induce vomiting, contact physician; immediately.

IHL: Move to fresh air, artificial resp. if necessary.

Eye/Skin: Irrigate/rinse with water for at least 15 min. Wash skin thoroughly with soap and water.

SYMPTOMS:

acute(immediate) exposure effects: Vapors cause dizziness, headache, coughing, pulmonary distress & edema. Nausea, vomiting, abdominal cramps also seen with over-exposure.

chronic(long term) exposure effects: Possible liver and/or kidney damage, pulmonary congestion. Ingestion may be fatal.

reproductive effects: None



Chemical Name TRIFLURALIN (TREFLAN) Date Feb / 87  
DOT Classification 1609 Job Number FOS-8702-169  
CAS Number 1582-09-8

**REFERENCES CONSULTED** (circle; also include MSDS if appropriate.)  
NIOSH/OSHA Pocket Guide Merck Index Hazardline Chris (vol. III)  
ACGIH TLV Booklet Toxic & Hazardous Safety Manual SAX Aldrich  
RTECS other Farm Chemicals Handbook

**CHEMICAL PROPERTIES:** (Synonyms: 2,6-DINITRO-N,N-DIPROPYL-4-(TRIFLUOROMETHYL) BENZENAMINE)  
Chemical Formula C<sub>13</sub>H<sub>16</sub>F<sub>3</sub>N<sub>3</sub>O<sub>4</sub> MW 335.3 Ionization Potential \_\_\_\_\_  
Physical State solid Boiling Point N/A Freezing Point 108°F/42°C  
Flash Point >125°F O.C. Flammable Limits N/A Vapor Pressure \_\_\_\_\_  
Specific Gravity/Density 1.294 at 25°C Odor/Odor Threshold \_\_\_\_\_  
Solubility-water: <1 ppm at 27°C Solubility-other: readily in organic solvents  
Incompatibilities & Reactivity: No reaction with common materials

**TOXICOLOGICAL PROPERTIES:**

Exposure Limits: TLV-TWA (ACGIH) not available PEL (OSHA) \_\_\_\_\_  
STEL \_\_\_\_\_ Ceiling Limits \_\_\_\_\_ IDLH not available  
Toxicity Data: (Indicate duration of study)  
Human; IHL \_\_\_\_\_ Dermal \_\_\_\_\_ Oral \_\_\_\_\_  
Rat/Mouse; IHL \_\_\_\_\_ Dermal \_\_\_\_\_ Oral LD50 >10,000 mg/Kg  
Aquatic: \_\_\_\_\_ Other: \_\_\_\_\_

Carcinogen Positive-mouse Mutagen Experimental Reproductive Toxin Experimental

Route(s) of exposure - (circle all that apply): Inhalation Ingestion  
Dermal Contact Eye(ocular) Dermal Absorption Other \_\_\_\_\_

**HANDLING RECOMMENDATIONS: (personal protective measures)**

Respirators: \_\_\_\_\_  
Protective Clothing: neoprene gloves; rubber shoes, apron; goggles;  
Special Equipment: \_\_\_\_\_

**DISPOSAL, FIRE and SPILLS: (Use numbered codes; see attached sheets for explanation.)**

Disposal \_\_\_\_\_ Fire H<sub>2</sub>O, foam, CO<sub>2</sub> Leaks & Spills \_\_\_\_\_  
Decomposition Products: hydrogen fluoride gas (toxic)

**FIRST AID:**

ING: if conscious - drink water or milk, induce vomiting; if unconscious, do nothing but keep victim warm.  
IHL: move victim to fresh air; if breathing is difficult, give oxygen.  
Eye/Skin: flush with plenty of water.

**SYMPTOMS:**

acute(immediate) exposure effects: Dust may irritate eyes. No toxic symptoms have been observed during the manufacture and use of this compound.

chronic(long term) exposure effects: data not available.

reproductive effects: data not available.

# TRIFLURALIN

TFR

<p>Common Synonyms alpha, alpha, alpha-trifluoro-2, 4, 6-trinitro-N,N-dimethyl-p-benzenesulfonamide Triellan 2, 6-Dinitro-N,N-dimethyl-4-trifluoromethylamine</p>	<p>Solid  Sinks in water.</p>
<p><b>AVOID CONTACT WITH SOLID AND DUST. KEEP PEOPLE AWAY.</b> Wear goggles and dust respirator. Call fire department. Isolate and remove discharged material. Notify local health and pollution control agencies.</p>	
<p><b>Fire</b></p>	<p>Combustible <b>POISONOUS GASES ARE PRODUCED IN FIRE.</b> Wear goggles and self-contained breathing apparatus. Extinguish with water, dry chemicals, foam, or carbon dioxide.</p>
<p><b>Exposure</b></p>	<p><b>CALL FOR MEDICAL AID.</b> <b>DUST POISONOUS IF INHALED.</b> Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing is difficult, give oxygen. <b>SOLID POISONOUS IF SWALLOWED.</b> Irritating to skin and eyes. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. If in EYES, hold eyelids open. <b>CONSCIOUS:</b> Have victim drink water. If <b>SWALLOWED</b> and victim is <b>CONSCIOUS:</b> Have victim drink water. IF <b>SWALLOWED</b> and victim is <b>UNCONSCIOUS OR HAVING CONVULSIONS,</b> do nothing except keep victim warm.</p>
<p><b>Water Pollution</b></p>	<p><b>HAZARFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS.</b> May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operations of nearby water intakes.</p>
<p><b>1. RESPONSE TO DISCHARGE</b> (See Response Methods Handbook) Isolate warning-poison, water contaminant Restrict access Should be removed Chemical and physical treatment</p>	<p><b>2. LABEL</b> 2.1 Category: None 2.2 Class: Not pertinent</p>
<p><b>3. CHEMICAL DESIGNATIONS</b> 3.1 CQ Compatibility Class: Not listed 3.2 Formula: <math>C_{11}H_7F_3N_5O_6</math> 3.3 IMO/UN Designation: 6.1/1609 3.4 DOT ID No.: 1609 3.5 CAS Registry No.: 1562-09-6</p>	<p><b>4. OBSERVABLE CHARACTERISTICS</b> 4.1 Physical State (as shipped): Solid 4.2 Color: Yellow-orange 4.3 Odor: Data not available</p>
<p><b>5. HEALTH HAZARDS</b> 5.1 Personal Protective Equipment: Protective gloves, goggles, dust mask 5.2 Symptoms Following Exposure: Dust may irritate eyes. No toxic symptoms have been observed during the manufacture and use of this compound. 5.3 Treatment of Exposure: INHALATION: move to fresh air. EYES: wash with running water; call physician if irritation persists. SKIN: wash with soap and running water. INGESTION: induce vomiting; call physician. 5.4 Threshold Limit Value: Data not available 5.5 Short Term Inhalation Limit: Data not available 5.6 Toxicity by Ingestion: Grade 3; oral LD<sub>50</sub> = 500 mg/kg (rat) 5.7 Late Toxicity: Data not available 5.8 Vapor (Gas) Irritant Characteristics: Data not available 5.9 Liquid or Solid Irritant Characteristics: Data not available 5.10 Odor Threshold: Data not available 5.11 IDLH Value: Data not available</p>	

<p><b>6. FIRE HAZARDS</b> 6.1 Flash Point: &gt; 185°F O.C. 6.2 Flammable Limits in Air: Not pertinent 6.3 Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide 6.4 Fire Extinguishing Agents Not to be Used: Not pertinent 6.5 Special Hazards of Combustion Products: Toxic and irritating hydrogen fluoride gas may be formed in fires. 6.6 Behavior in Fire: Not pertinent 6.7 Ignition Temperature: Not pertinent 6.8 Electrical Hazard: Not pertinent 6.9 Burning Rate: Not pertinent 6.10 Adiabatic Flame Temperature: Data not available 6.11 Stoichiometric Air to Fuel Ratio: Data not available 6.12 Flame Temperature: Data not available</p>	<p><b>10. HAZARD ASSESSMENT CODE</b> (See Hazard Assessment Handbook) II  <b>11. HAZARD CLASSIFICATIONS</b> 11.1 Code of Federal Regulations: Not listed 11.2 HAS Hazard Rating for Bulk Water Transportation: Not listed 11.3 MFPA Hazard Classification: Not listed</p>
<p><b>7. CHEMICAL REACTIVITY</b> 7.1 Reactivity With Water: No reaction 7.2 Reactivity with Common Materials: No reaction 7.3 Stability During Transport: Stable 7.4 Neutralizing Agents for Acids and Caustics: Not pertinent 7.5 Polymerization: Not pertinent 7.6 Inhibitor of Polymerization: Not pertinent 7.7 Molar Ratio (Reactant to Product): Data not available 7.8 Reactivity Group: Data not available</p>	<p><b>12. PHYSICAL AND CHEMICAL PROPERTIES</b> 12.1 Physical State at 18°C and 1 atm: Solid 12.2 Molecular Weight: 335.3 12.3 Boiling Point at 1 atm: Not pertinent (decomposes) 12.4 Freezing Point: 108°F = 42°C = 315°K 12.5 Critical Temperature: Not pertinent 12.6 Critical Pressure: Not pertinent 12.7 Specific Gravity: 1.284 at 25°C (solid) 12.8 Liquid Surface Tension: Not pertinent 12.9 Liquid Water Interfacial Tension: Not pertinent 12.10 Vapor (Gas) Specific Gravity: Not pertinent 12.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent 12.12 Latent Heat of Vaporization: Not pertinent 12.13 Heat of Combustion: (est.) -9,040 Btu/lb = -5,020 cal/g = -210 X 10<sup>3</sup> J/kg 12.14 Heat of Decomposition: Not pertinent 12.15 Heat of Solution: Not pertinent 12.16 Heat of Polymerization: Not pertinent 12.25 Heat of Fusion: Data not available 12.26 Limiting Value: Data not available 12.27 Reid Vapor Pressure: Data not available</p>
<p><b>8. WATER POLLUTION</b> 8.1 Aquatic Toxicity: 11 µg/l/48 hr/rainbow trout/L<sub>50</sub>/fresh water 0.56 ppm/48 hr/bluegill/L<sub>50</sub>/fresh water 8.2 Waterfowl Toxicity: Data not available 8.3 Biological Oxygen Demand (BOD): Data not available 8.4 Food Chain Concentration Potential: Data not available</p>	
<p><b>9. SHIPPING INFORMATION</b> 9.1 Grades of Purity: Technical: 95%. Emulsifiable concentrates in flammable solvents. 9.2 Storage Temperature: Ambient 9.3 Inert Atmosphere: No requirement 9.4 Venting: Pressure-vacuum</p>	

NOTES

CHRIS VOL. III



# SITE DOSIMETER LOG

TDD# F05-8702-169

SITE NAME Kankakee Valley Airport

SITE SAFETY OFFICER \_\_\_\_\_

WEEK OF \_\_\_\_\_

NAME AND DOSIM. #	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY

To the nearest half-hour, record time spent downrange as "S" (e.g., S: 2.5 hrs), time spent in active PDS operation as "P", and any time spent downrange in rescue activity as "R".

ECOLOGY & ENVIRONMENT, INC.  
REGION V EQUIPMENT LIST

Team Leader: Phil Smith  
TDD Number: F05-8702-169  
Date of Departure: wk of 3-2-87  
Date of Expected Return: same day

A. Safety Instruments

(Please Circle)

<u>1</u>	Drager Pump	A B C D E F
<u>1</u>	MSA 2A Explosimeter	A B C D E F G
<u>1</u>	MSA 260 Combustible Gas/O <sub>2</sub> Alarm	A
<u>1</u>	HNU 101	A B C D E F
<u>1</u>	Lamp Type: <u>10.2</u> or 11.7	
<u>1</u>	MSA 245 Oxygen Indicator	A B C D E F
<u>1</u>	Organic Vapor Analyses (OVA)	A B C
<u>1</u>	Radiation - Mini	A B C D E F G
<u>1</u>	Radiation - Survey Meter	A B C
<u>1</u>	Rad - Tad	A B
<u>1</u>	Radiation - Thyac III/Probe	A B C
<u>1</u>	Dust Monitor - MDA System	A
<u>1</u>	Monitox Hydrogen Cyanide Detector	A

B. First Aid Equipment

<u>1</u>	First Aid Kit	1 2 3 4 5 6 7 8
<u>1</u>	Eyewash Bottle	
<u>1</u>	Oxygen Inhalator	A B C
<u>1</u>	Blood Pressure Monitor	
<u>✓</u>	Radiation TLD Badges	
<u>✓</u>	Safety Glasses	
<u>1</u>	Lifvests	
<u>✓</u>	Hard Hats	
<u>1</u>	Face Shields	
<u>1</u>	Ear Plugs	

C. Respiratory Equipment

<u>✓</u>	Ultratwin Respirator	Qty: <u>2</u>
<u>1</u>	Racal Air-powered Respirator	Qty: <u>1</u>
<u>1</u>	MSA Air-powered Respirator	Qty: <u>1</u>
<u>1</u>	Robert Shaw Escape Mask	Qty: <u>1</u>
<u>1</u>	MSA SCBA	Qty: <u>1</u>
<u>1</u>	Extra Air Cylinders	Qty: <u>1</u>

### D. Respirator Cartridges

GMC-H	Qty: _____
<u>GM-P</u>	Qty: <u>6</u>
HEPA	Qty: _____
Other _____	Qty: _____

### E. Misc. Instrumentation

_____	Airdrive Pump (Geofilter)	A
<input checked="" type="checkbox"/>	Canon AEL Camera	A B C
_____	Conductivity Meter	A B C D
_____	Level/Tripod and Rod	A B C
_____	Masterflex Pump and Filter	A B
_____	Metal Detector	A B C
_____	pH Meter	A B C D
_____	Polarid One-step Camera	A B C D
_____	Resistivity Meter	A
_____	Robair Pump System	A
_____	Water-level Indicator	A B C
_____	Magnetometer	A B
_____	Air Sampling Pump Kits	A B C D E
_____	Buck Calibrator	A
_____	HNU 301 System	A
_____	Thermal Desorber	A B
_____	Meteorological (Weather) Station	A
_____	Binoculars	

### F. Vehicles

_____	Step Van	A B C
_____	Cargo Van	A
<input checked="" type="checkbox"/>	Suburban	A B

### G. Protective Clothing

#### 1) Outerware

Splash Aprons	Qty: _____	Butyl Acid Suits	Qty: _____
Saranax	Qty: _____	Cold-weather Suits	Qty: _____
<u>Tyvek</u>	Qty: <u>6</u>	Other _____	Qty: _____
Coveralls	Qty: _____	Fully-encapsulated Suit	Qty: _____

## 2) Gloves

<u>Latex Disposable</u>	Qty: <u>3 pr</u>	Viton	Qty: <u>      </u>
Butyl Rubber	Qty: <u>      </u>	Winter Drilling	Qty: <u>      </u>
Nitrile	Qty: <u>      </u>	Other <u>      </u>	Qty: <u>      </u>
Neoprene	Qty: <u>      </u>		

## 3) Boots

Neoprene	Qty: <u>      </u>
<u>Latex Disposable</u>	Qty: <u>3 pr</u>
<u>Steel-toe</u>	Qty: <u>3 pr</u>
Cold-weather	
i.e., sorrel	Qty: <u>      </u>
Other <u>      </u>	Qty: <u>      </u>

## H. Sample Bottles and Equipment

80 oz.	Qty: <u>      </u>
40 ml.	Qty: <u>      </u>
1 liter	Qty: <u>      </u>
120 ml.	Qty: <u>      </u>
8 oz.	Qty: <u>      </u>
32 oz.	Qty: <u>      </u>
Metal cans,	
clips, and lids	Qty: <u>      </u>
Bailers	Qty: <u>      </u>

## I. Preservatives

NaOH	<u>      </u>
HN <sub>3</sub>	<u>      </u>
H <sub>2</sub> SO <sub>4</sub>	<u>      </u>
Other	<u>      </u>

## J. Drager Tubes

Hydrogen Cyanide	Qty: <u>      </u>
Sulfuric Acid	Qty: <u>      </u>
Natural Gas (Methane)	Qty: <u>      </u>
Arsenic Trioxide	Qty: <u>      </u>
Ammonia	Qty: <u>      </u>
Vinyl-chloride	Qty: <u>      </u>
Other <u>      </u>	Qty: <u>      </u>

**K. Decon Supplies**

Wash Tubs	Qty:	_____
Buckets	Qty:	2
Scrub Brushes	Qty:	2
Pressurized Sprayer	Qty:	_____
Trash Bags	Qty:	_____
Tarps	Qty:	_____
Duct Tape	Qty:	_____
Solvent	Type:	_____
Detergent	Type:	alconox
MSA Sanitizing Solution	Qty:	1 pack

P.D. Moss (Rev. 4/85)

PM:4X

**ECOLOGY AND ENVIRONMENT, INC.  
FIELD INVESTIGATION TEAM  
ON-SITE SAFETY MEETING**

**Project** \_\_\_\_\_

**Date** \_\_\_\_\_ **Time** \_\_\_\_\_ **Job No.** \_\_\_\_\_

**Address** \_\_\_\_\_

**Specific Location** \_\_\_\_\_

**Type of Work** \_\_\_\_\_

**SAFETY TOPICS PRESENTED**

**Protective Clothing/Equipment** \_\_\_\_\_

**Chemical Hazards** \_\_\_\_\_

**Physical Hazards** \_\_\_\_\_

**Emergency Procedures** \_\_\_\_\_

**Hospital/Clinic** \_\_\_\_\_ **Phone** \_\_\_\_\_

**Special Equipment** \_\_\_\_\_

**Other** \_\_\_\_\_

recycled paper

ecology

**ECOLOGY AND ENVIRONMENT, INC.**  
**FIELD INVESTIGATION TEAM**  
**ON-SITE SAFETY MEETING**

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**ATTENDEES**

**Name (Printed)**

**Signature**

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**Meeting Conducted By:**

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**Site Safety Officer:**

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**Team Leader:**

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# ON-SITE SAFETY LOG

ECOLOGY AND ENVIRONMENT, INC.  
CHICAGO

## A. ON-SITE MONITORING

	<u>EQUIPMENT USED</u>	<u>BACKGROUND READING IN BREATHING ZONE</u>	<u>CALIBRATED AT</u>	<u>ON-SITE READING IN BREATHING ZONE</u>
1.	_____	_____	_____	_____
2.	_____	_____	_____	_____
3.	_____	_____	_____	_____
4.	_____	_____	_____	_____
5.	_____	_____	_____	_____

## B. PROTECTIVE CLOTHING WORN: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

C. SITE NAME: Kankakee Valley Airport

PROJECT NUMBER: FO5-8702-169

DATE: \_\_\_\_\_

WEATHER CONDITIONS: \_\_\_\_\_

NAMES OF ATTENDEES AT SITE: \_\_\_\_\_

\_\_\_\_\_

## D. COMMENTS ON MONITORING OR PROTECTIVE CLOTHING \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEAM LEADER: \_\_\_\_\_

NAME

SIGNATURE

SITE SAFETY OFFICER: \_\_\_\_\_

(P.D. Moss, 1/85)

